

**Amendments to the Claims:**

This listing of claims will replace all prior listings of claims in the application.

**Listing Of Claims:**

**Claim 1 (currently amended):** A method of detecting from a vehicle variations in path on a road having a surface and road edges comprising:

- at least partly illuminating a road scene near the vehicle;
- taking an image of a road scene having a plurality of pixels; unfolding in front of the vehicle and at least partly illuminated by the vehicle;
- determining, for each of the pixels [[pixel]] in the image, a light decrease gradient~~[[,]]~~;
- analyzing these light decrease gradients and determining an image of the road edges~~[[,]]~~;
- ~~mathematically discriminating the light decrease gradients from the image of the road edges, and~~
- calculating a number of the pixels of the image whose light decrease gradient is oriented from a left towards a center of the image and a number of the pixels of the image whose light decrease gradient is oriented from a right towards the center of the image; and
- ~~analyzing this discrimination by comparing the distribution of luminosity and~~  
determining an angle of a bend of the road by comparing a distribution of luminosity of the pixels.

**Claim 2 (previously presented):** A method according to Claim 1, wherein the light decrease gradient of an elementary image part corresponds to a decrease vector of light formed between adjacent pixels.

**Claim 3 (previously presented):** A method according to Claim 2, wherein the analysis of the light decrease gradients comprises a thresholding of the decrease vectors and an elimination of the decrease vectors outside the threshold.

**Claim 4 (currently amended):** A method according to Claim 2, wherein the ~~mathematical discrimination~~ analysis step comprises counting ~~[[the]]~~ a number of elementary image parts having a vector oriented in one direction and ~~[[the]]~~ a number of elementary image parts have a decrease vector oriented in ~~[[the]]~~ an opposite direction.

**Claim 5 (currently amended):** A method according to Claim ~~[[4]]~~<sup>3</sup>, wherein the ~~counting~~ calculating of the ~~elementary image parts~~ number of the pixels is carried out pixel column by pixel column, or by groups of pixel columns.

**Claim 6 (currently amended):** A method according to Claim 1, wherein the analysis of ~~the discrimination~~ is carried out by a neural network.

**Claim 7 (currently amended):** A method according to Claim 6, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical~~ discriminations distributions of luminosity of the pixels.

**Claim 8 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 1, comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 9 (previously presented):** A system of detecting a bend according to Claim 8, wherein the neural network is integrated in the image processing unit.

**Claim 10 (previously presented):** A system for detecting a bend according to Claim 8 that is connected to a vehicle headlight, movable or fixed and modulated for intensity.

**Claim 11 (currently amended):** A method according to Claim 3, wherein the ~~mathematical discrimination analysis step~~ comprises counting ~~[[the]]~~ a number of elementary image parts having a vector oriented in one direction and ~~[[the]]~~ a number of elementary image parts have a decrease vector oriented in ~~[[the]]~~ an opposite direction.

**Claim 12 (currently amended):** A method according to Claim 2, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

**Claim 13 (currently amended):** A method according to Claim 3, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

**Claim 14 (currently amended):** A method according to Claim 4, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

**Claim 15 (currently amended):** A method according to Claim 5, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

**Claim 16 (currently amended):** A method according to Claim 1, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

**Claim 17 (currently amended):** A method according to Claim 2, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

**Claim 18 (currently amended):** A method according to Claim 3, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

**Claim 19 (currently amended):** A method according to Claim 4, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

**Claim 20 (currently amended):** A method according to Claim 5, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

**Claim 21 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 2 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 22 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 3 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 23 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 4 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 24 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 5 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 25 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 6 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 26 (previously presented):** A system for detecting a bend in a road from a vehicle implementing the method according to Claim 7 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

**Claim 27 (previously presented):** A system for detecting a bend according to Claim 9 that is connected to a vehicle headlight, movable or fixed and modulated for intensity.

**Claim 28 (previously presented):** A method according to Claim 1, further comprising controlling lateral orientation of at least one vehicle headlight based on the determination of the angle of the road.

**Claim 29 (currently amended):** A method according to Claim 1, wherein the analysis ~~step of mathematically discriminating~~ comprises generating a first curve corresponding to the number of the pixels having a decrease vector oriented from the left of the image towards the center of the image, and generating a second curve corresponding to the number of the pixels having a decrease vector oriented from the left of the image towards the center of the image.

**Claim 30 (currently amended):** A method according to Claim 29, wherein the step of analyzing ~~the discrimination~~ comprises deducing ~~[[the]]~~ a shape of the road ahead based on ~~[[the]]~~ a form of the first and second curves.